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09/803,999	03/12/2001	Matthijs Hendrik Keuper	PHNL 000103	8882

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PATENT LAW GROUP LLP  
2635 NORTH FIRST STREET  
SUITE 223  
SAN JOSE, CA 95134

EXAMINER
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GILMAN, ALEXANDER

ART UNIT	PAPER NUMBER
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2833

MAIL DATE	DELIVERY MODE
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10/17/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

09/803,999

Applicant(s)

KEUPER, MATTHIJS HENDRIK

Examiner

Alexander D. Gilman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 14, 16, 17 and 28-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14, 16, 17 and 28-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the electrical connectors must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 14 –17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14, recites “ electrical connectors on the bottom surface ...”.

It is unclear which connectors are claimed neither specification nor claim do not discuss the connectors function.

It was assumed that electrical connectors function to connect DC voltage to the diode.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 14,16, 17, 28, 30-32 are, as they can be understood due to the 112 problem, rejected under 35 U.S.C. 102(e) as being anticipated by Johnson et al.

With regard to claim 14, Johnson et al (US 6,373,188) disclose a light-emitting device comprising:

- a semiconductor light emitting diode (22, 20) capable of emitting light of a first wavelength, the semiconductor light emitting diode having a light-emitting surface, and

- a plurality of regions of phosphor (60 or 30; col. 7, lines 52-54 ) provided on the light-emitting surface (col. 5, lines 8-14), wherein:

- at least some of the plurality of regions of phosphor (the phosphor segments on a columnar light-emitting surface) are capable of converting light of the first wavelength to visible light of a second wavelength;

- electrical connectors on the bottom surface ;

the plurality of regions of phosphor form a pattern (Fig. 2); and

- the plurality of regions of phosphor (Fig. 3, r.n.82, 82) are separated by regions of the light-emitting surface without phosphor (alternatively, r.n. 60, 60 separated by r.n. 65)

With regard to claim 16, Johnson et al disclose that the regions of the light-emitting surface without phosphor are at least partly covered with a light-transmitting layer (83).

With regard to claim 17, Johnson et al disclose that a thickness of the light-transmitting layer is substantially the same as a thickness of phosphor in the regions of phosphor.

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With regard to claim 28, Johnson et al disclose the plurality of regions of phosphor forming a chessboard pattern and the plurality of regions of phosphor being, separated by regions of the light-emitting surface without phosphor.

With regard to claim 30, Johnson et al disclose that the thickness of the phosphor layer (30) is such that all the light of the first wavelength incident on the phosphor layer is converted to light of a different wavelength.

With regard to claim 31, Johnson et al disclose that others of the plurality of regions of phosphor are capable of converting light of the first wavelength to visible light of a third wavelength (since more than one visible phosphor disposed in segments can be utilized)

With regard to claim 32, Johnson et al disclose that at least one opticalement (36) for mixing the emitted light of the first and the second wavelength.

Claims 14, 16, 17, 28, 30-32 are as they can be understood due to the 112 problem rejected under 35 U.S.C. 102(e) as being anticipated by Vriens et al.

With regard to claims 14, 29 Vriens et al (US 4,822,144) disclose a light-emitting device comprising:

a semiconductor light emitting diode (col. 3, lines 51-52, since LED is a semiconductor device that emits narrow-spectrum light) capable of emitting light of a first wavelength, the semiconductor light emitting diode having a light-emitting surface, and

a plurality of regions of phosphor (for example regions R, G, B) provided on the light-emitting surface (the surface of 10), wherein:

at least some of the plurality of regions of phosphor are capable of converting light of the first wavelength to visible light of a second wavelength;

the plurality of regions of phosphor form a pattern (any regularly repeated arrangement); and

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the plurality of regions of phosphor (for examples , R -regions) are separated by regions of the light-emitting surface without phosphor (spaces between R and G phosphor segments)

With regard to claim 16, Vriens et al disclose that the regions of the light-emitting surface without phosphor are at least partly covered with a light-transmitting layer (13).

With regard to claim 17, Vriens et al disclose that a thickness of the light-transmitting layer is substantially the same as a thickness of phosphor in the regions of phosphor.

With regard to claim 28, Vriens et al disclose the plurality of regions of phosphor (R,G,B) forming a chessboard pattern and the plurality of regions of phosphor being separated by regions of the light-emitting surface without phosphor(spaces between R and G phosphor segments)

With regard to claim 30, Vriens et al disclose that the thickness of the phosphor layer is such that all the light of the first wavelength incident on the phosphor layer is converted to light of a different wavelength.

With regard to claim 31, Vriens et al disclose that others of the plurality of regions of phosphor are capable of converting light of the first wavelength to visible light of a third wavelength (since R,G,B phosphors are utilized)

With regard to claim 32, Vriens et al disclose that at least one optical element (14) for mixing the emitted light of the first and the second wavelength.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al in view of Duggal et al.

Johnson et al discloses all of the limitations except for producing white light.

Duggal et al (US 6,294,800) disclose (col. 2, lines 13-29) that converting the LED radiation energy with some phosphor compositions produces substantially white light.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the Johnson et al with the phosphor compositions, as taught by Duggal et al, to achieve visual efficiency of the device.

Claim 29 rejected under 35 U.S.C. 103(a) as being unpatentable over Vriens et al in view of Duggal et al.

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Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the Johnson et al with the phosphor compositions, as taught by Duggal et al, to achieve visual efficiency of the device.

### ***Response to Arguments***

Applicant's arguments filed 08/06/2007 have been fully considered but they are not persuasive.

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Applicants argue that the prior art do not disclose the electrical connectors specifically disposed.

It was not specified which connectors are claimed.

Since Applicants refer to ohmic contacts as the connectors, Examiner agrees that in Johnson et al some of the ohmic contacts (cathode) are disposed at the phosphor level. However, anode contacts should be disposed on a side opposite to the phosphor surface (For example, Christmann et al, US 4,081,764, Fig. 3, r.n. 34). Hence, anode contacts satisfy the claim 14 limitation regarding electrical connectors.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander D. Gilman whose telephone number is 571 272-2004. The examiner can normally be reached on Monday-Friday, 10:30 a.m. - 8:00 p.m.

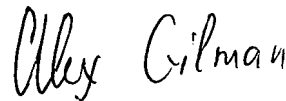


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on 571 272-2800 ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

10/10/07

A handwritten signature in black ink that reads "Alex Gilman". The signature is written in a cursive, flowing style.

**ALEXANDER GILMAN  
PRIMARY EXAMINER**